Comparison of Different Methods for Emotion Classification

Abstract

This article proposed emotional features clustering from electroencephalographic (EEG) signals. Facial expression images induce emotional states, which include happy, neutral and sad faces. This paper examined the effect of expression facial stimuli on event-related potential (ERPs). Moreover, It also investigated the frequency band searching by comparison between two methods; the linear support vector machine (LSVM) and the Naive Bayes classifier method. Feature extraction was performed by common spatial patterns (CSP) to reduce the dimensions of data in the frequency domain. The results showed that both methods have an ability to classify the emotional features. LSVM had more accuracy than Naive Bayes classifier. Furthermore , the gamma band was the suitable frequency interval to detect arousal emotions. Nevertheless, the happy versus sad emotional features wereclassified with higher accuracy.